

AMENDMENTS TO THE CLAIMS:

1. (currently amended) A skin treatment method comprising applying electromagnetic radiation to a skin surface of an individual in a first treatment session to at least ~~partially prevent, reverse, or inhibit~~ reduce damage to the skin caused by exposure of the individual to a source of Xray or ultraviolet radiation, the applying of said electromagnetic radiation to said skin surface being effectuated prior to, during or after the exposure of the individual to the source of Xray or ultraviolet radiation, the applying of said electromagnetic radiation to said skin surface being effectuated in the absence of any visible undesirable condition along said skin surface, and

prior to detecting any substantial visible change in said skin surface, subsequently applying electromagnetic radiation in a second treatment session to said skin surface to at least ~~partially prevent, reverse, or inhibit~~ reduce damage to the skin caused by exposure to Xray or ultraviolet radiation, the electromagnetic radiation applied in said first treatment session and said second treatment session being characterized by parameters including pulse duration, wavelength and total energy so selected that the applying of the electromagnetic radiation collectively promotes healthy skin and generates no visible damage such as tanning.

2. (previously presented) The method defined in claim 1 wherein the applying of said electromagnetic radiation in each of said first treatment session and said second treatment session includes:

generating a predetermined number of pulses of electromagnetic radiation each having a predetermined electromagnetic spectrum; and

directing said pulses of electromagnetic radiation towards said skin surface, said pulses having a total energy predetermined to reduce Xray or ultraviolet radiation damage to the tissues of said skin surface.

3. (original) The method defined in claim 2 wherein said number of pulses is greater than one, said pulses have an inter-pulse interval between approximately 1 msec and 500 msec, said total energy is between approximately 0.01 Joule and approximately 200 Joules of energy per square centimeter of said skin surface, and said pulse duration is between about 1 msec and 2 sec.

4. (original) The method defined in claim 3 wherein said pulse duration is between about 1 msec and 100 msec.

5. (original) The method defined in claim 3 wherein said total energy is between approximately 20 Joules and approximately 90 Joules of energy per square centimeter of said skin surface.

6. (original) The method defined in claim 5 wherein said pulses are applied to said skin surface as a plurality of pulse packets, each of said packets having an inter-pulse interval between approximately 1 msec and 500 msec, said total energy being distributed over said pulse packets, said pulse duration being between about 1 msec and 2 sec for each of said packets, said packets being temporally spaced from each other by an inter-packet interval of between about 0.1 sec and twenty minutes.

7. (original) The method defined in claim 2 wherein the number of pulses is two, the pulse duration is about 5.8 msec, the interpulse interval is approximately 20 msec, and the total energy applied is between about 20 Joules per square centimeter of said skin surface and about 90 Joules per square centimeter of said skin surface.

8. (original) The method defined in claim 2 wherein the number of pulses is one, the pulse duration is between about 18 msec and 25 msec, and the total energy applied is between about 20 Joules per square centimeter of said skin surface and about 90 Joules per square centimeter of said skin surface.

9. (original) The method defined in claim 2 wherein the electromagnetic radiation of said pulses is incoherent and wherein said spectrum includes wavelengths between about 400 nm and 1200 nm.

10. (canceled)

11. (canceled)

12. (previously presented) The method defined in claim 1 wherein the applying of said electromagnetic radiation to said skin surface in each of said first treatment session and said second treatment session is effectuated within a predetermined interval prior to the exposure of the individual to Xray or ultraviolet radiation.

13. (original) The method defined in claim 12 wherein predetermined interval is less than about 24 hours.

14. (previously presented) The method defined in claim 1 wherein the applying of said electromagnetic radiation to said skin surface in each of said first treatment session and said second treatment session is effectuated within a predetermined interval after the exposure of the individual to Xray or ultraviolet radiation.

15. (original) The method defined in claim 14 wherein said predetermined interval is less than approximately 24 hours.

16. (original) The method defined in claim 1 wherein the electromagnetic radiation applied to said skin surface has a wavelength absorbable by an endogenous chromophore in tissues along said skin surface.

17. (original) The method defined in claim 16 wherein the endogenous chromophore is melanin.

18. (previously presented) The method defined in claim 1 wherein the applying of said electromagnetic radiation to said skin surface in one of said first treatment session and said second treatment session is further removed in time than the applying of said electromagnetic radiation to said skin surface in the other of said first treatment session and said second treatment session from the exposure of the individual to Xray or ultraviolet radiation.

19. (original) The method defined in claim 18 wherein said occasions are regularly spaced in time from one another.

20. (canceled)

21. (canceled)

22. (currently amended) The method defined in claim 1, further comprising applying a marker film to said skin surface in at least one of said first treatment session and said second treatment session to indicate that said electromagnetic radiation has been applied to said skin surface in said one of said first treatment session and said second treatment session, said marker film being applied at each point of said skin surface to which said electromagnetic radiation has been applied.

23. (original) The method defined in claim 22 wherein said marker film includes a visually detectable pigment.

24. (previously presented) The method defined in claim 1 wherein the applying of said electromagnetic radiation to said skin surface in at least one of said first treatment session and said second treatment session is effectuated during the exposure of the individual to Xray or ultraviolet radiation.

25. (previously presented) The method defined in claim 1, further comprising providing an exogenous chromophore in tissues along said skin surface prior to the applying of said electromagnetic radiation to said skin surface in at least one of said first treatment session and said second treatment session.

26. (previously presented) The method defined in claim 25 wherein said exogenous chromophore is porphyrin.

27. (previously presented) The method defined in claim 1, further comprising transmitting ultrasound energy into biological tissues along said skin surface prior to, during or after the applying of said electromagnetic radiation to said skin surface in at least one of said first treatment session and said second treatment session.

28. (previously presented) The method defined in claim 1, further comprising applying a magnetic field to biological tissues along said skin surface prior to, during or after the applying of said electromagnetic radiation to said skin surface in at least one of said first treatment session and said second treatment session.

29. (currently amended) A prophylactic skin treatment method comprising:  
generating a predetermined number of pulses of electromagnetic radiation each having a predetermined electromagnetic spectrum;  
applying said pulses of electromagnetic radiation to an individual's skin surface, said pulses having at least one predetermined pulse duration, and a predetermined total energy;

exposing the individual to Xray or ultraviolet radiation, the exposing of said individual to Xray or ultraviolet radiation occurring within a predetermined period of time of the applying of said pulses to said skin surface; and

at least in part owing to the applying of said pulses to said skin surface, reducing or preventing damage to the tissues of said skin surface arising from the exposing of said individual to Xray or ultraviolet radiation, said pulse duration and total energy being so selected that the applying of said pulses of electromagnetic radiation promotes health of the skin and generates no visible damage such as tanning.

30. (canceled)

31. (previously presented) The method defined in claim 29 wherein said period of time is approximately 24 hours.

32. (original) The method defined in claim 31 wherein the applying of said pulses to said skin surface is effectuated in multiple sessions spaced by intervals of greater than five minutes.

33. (original) The method defined in claim 32 wherein the applying of said electromagnetic radiation includes, in each of said sessions:

generating a predetermined number of radiation pulses each having a predetermined electromagnetic spectrum; and

directing said radiation pulses towards said skin surface, said radiation pulses having at least one pulse duration and a total energy all predetermined to reduce Xray or ultraviolet radiation damage to the tissues of said skin surface.

34. (original) The method defined in claim 33 wherein said number of said radiation pulses is greater than one, said radiation pulses having an inter-pulse interval between approximately 1 msec and 500 msec, said total energy is between approximately 0.01 Joule and approximately 200 Joules of energy per square centimeter of said skin surface, said pulse duration is between about 1 msec and 2 sec,

35. (original) The method defined in claim 34 wherein said pulse duration is between about 1 msec and 100 msec, said total energy is between approximately 20 Joules and approximately 90 Joules of energy per square centimeter of said skin surface.

36. (original) The method defined in claim 34 wherein the number of said radiation pulses is two, the pulse duration is about 5.8 msec, the interpulse interval is approximately 20 msec, and the total energy applied is between about 20 Joules per square centimeter of said skin surface and about 90 Joules per square centimeter of said skin surface.

37. (previously presented) The method defined in claim 33 wherein the number of said radiation pulses is one, the pulse duration is between about 18 msec and 25 msec, and the total energy applied is between about 20 Joules per square centimeter of said skin surface and about 90 Joules per square centimeter of said skin surface.

38. (currently amended) The method defined in claim 29, further comprising applying a marker film to said skin surface to indicate that said pulses of electromagnetic radiation have been applied to said skin surface, said marker film being applied at each point of said skin surface to which said electromagnetic radiation has been applied.

39. (original) The method defined in claim 38 wherein said marker film includes a visually detectable pigment.

40. (original) The method defined in claim 29 wherein said predetermined number of pulses is one.

41-57. (canceled)

58. (currently amended) A light treatment method comprising:  
generating light energy of a selected spectral composition;  
directing said light energy towards a skin surface; and  
thereafter applying a marker film to said skin surface at locations where the light energy has been applied to said skin surface, said marker film being applied at each point of said skin surface to which said energy has been applied.

59. (original) The method defined in claim 58 wherein said marker film includes a visible pigment composition.

60-66. (canceled)

67. (previously presented) The method defined in claim 1 wherein the applying of said electromagnetic radiation to said skin surface in said first treatment session and said second treatment session is effectuated within a predetermined interval of a respective exposure of the individual to Xray or ultraviolet radiation.

68. (currently amended) A skin treatment method comprising periodically applying, in temporally spaced treatment sessions, electromagnetic radiation to a skin surface of an individual to at least partially prevent, reverse, or inhibit reduce damage to the skin caused by exposure of the individual to Xray or ultraviolet radiation, the applying of said electromagnetic radiation to said skin surface in each of said treatment sessions being effectuated prior to, during or after the exposure of the individual to Xray or ultraviolet radiation, the applying of said electromagnetic radiation to said skin surface being effectuated in the absence of any visible undesirable condition along said skin surface, said electromagnetic radiation being characterized by parameters including pulse duration, wavelength and total energy so selected that the applying of said electromagnetic radiation promotes healthy skin and generates no visible damage such as tanning.

69. (previously presented) The method of claim 68 wherein the applying of the electromagnetic radiation in each of said treatment sessions is effectuated at a location taken from the group consisting of a home, a tanning salon, a spa, a beach and a swimming pool.

70. (currently amended) A skin treatment method comprising:

without regard to visible skin conditions along a skin surface of an individual, applying electromagnetic radiation to said skin surface in a first treatment session to at least partially prevent, reverse, or inhibit reduce damage to the skin caused by exposure of the individual to Xray or ultraviolet radiation; and

subsequently, without regard to visible skin conditions along said skin surface, applying electromagnetic radiation to said skin surface in a second treatment session to at least partially prevent, reverse, or inhibit damage to the skin caused by exposure of the individual to Xray or ultraviolet radiation, the electromagnetic radiation applied to said skin surface during at least one of said first treatment session and said second treatment session having an electromagnetic spectrum including only wavelengths greater than 400 nm.

71. (previously presented) The method of claim 70 wherein the applying of the electromagnetic radiation in each of said treatment sessions is effectuated at a location taken from the group consisting of a home, a tanning salon, a spa, a beach and a swimming pool.

72. (currently amended) A skin treatment method comprising:  
determining a degree of exposure of a skin surface to Xray or ultraviolet radiation;  
and

subsequently applying an effective amount of electromagnetic radiation to said skin surface, in accordance with the determined degree of Xray or ultraviolet exposure, to at least partially prevent, reverse, or inhibit reduce damage to the skin caused by exposure to the Xray or ultraviolet radiation, the applying of said electromagnetic radiation being effectuated in the absence of any visible Xray or ultraviolet radiation damage along said skin surface.

73. (currently amended) A skin treatment method comprising applying an effective amount of electromagnetic radiation to a skin surface to at least ~~partially prevent, reverse, or inhibit~~ reduce damage to the skin caused by exposure to ~~Xray or ultraviolet solar~~ radiation, the applying of said electromagnetic radiation to said skin surface being effectuated on at least one occasion prior to, during or after the exposure of the individual to ~~Xray or ultraviolet solar~~ radiation, the applying of said electromagnetic radiation to said skin surface being effectuated in the absence of any visible ~~Xray or ultraviolet solar~~ radiation damage along said skin surface, the applying of said electromagnetic radiation to said skin surface being effectuated within a predetermined interval of the exposure of said skin surface to ~~Xray or ultraviolet solar~~ radiation.

74. (currently amended) The method defined in claim 73 wherein said predetermined interval begins prior to the exposure of the individual to ~~Xray or ultraviolet solar~~ radiation.

75. (currently amended) The method defined in claim 73 wherein said predetermined interval begins upon the exposure of said skin surface to ~~Xray or ultraviolet solar~~ radiation.

76. (currently amended) The method defined in claim 73 wherein said predetermined interval is approximately zero, the application of electromagnetic radiation to said skin surface occurring during exposure of said skin surface to ~~Xray or ultraviolet solar~~ radiation.

77. (currently amended) The method defined in claim 73 wherein said skin surface is not directly exposed to said source of ~~Xray or ultraviolet solar~~ radiation.

78. (currently amended) A skin treatment method comprising applying electromagnetic radiation to a skin surface of an individual to at least ~~partially prevent, reverse, or inhibit~~ reduce damage to the skin caused by exposure of the individual to Xray or ultraviolet radiation, the applying of said electromagnetic radiation to said skin surface being effectuated prior to, during or after the exposure of the individual to Xray or ultraviolet radiation, the electromagnetic radiation being so defined by parameters including total energy, pulse number, pulse duration, and electromagnetic spectrum, that the electromagnetic radiation is absorbed by endogenous chromophores in the epidermis and by chromophores in underlying tissues, to thereby stimulate a healing response and a release of tissue substances without ~~permanently~~ visibly damaging the epidermis and the underlying tissues.

79. (previously presented) The method defined in claim 78, further comprising inducing scattering of said electromagnetic radiation in epidermal, dermal and subdermal tissues of the individual, thereby resulting in energy transfer by random light interaction with undetermined molecular species.

80. (previously presented) The method defined in claim 29 wherein the generating of the pulses and the applying of the pulses are carried out at a location taken from the group consisting of a tanning salon, a beach, a swimming pool, and a spa.

81. (previously presented) The method defined in claim 58, further comprising operating a sensor to automatically detect the presence of said marker film on said skin surface.

82. (new) The method defined in claim 22, further comprising operating a sensor to automatically detect the presence of said marker film on said skin surface.

83. (new) The method defined in claim 38, further comprising operating a sensor to automatically detect the presence of said marker film on said skin surface.

84. (new) The method defined in claim 1 wherein said skin surface is not directly exposed to said source of Xray or ultraviolet radiation.

85. (new) The method defined in claim 29 wherein said skin surface is not directly exposed to said source of Xray or ultraviolet radiation.

86. (new) The method defined in claim 68 wherein said skin surface is not directly exposed to said source of Xray or ultraviolet radiation.

87. (new) The method defined in claim 70 wherein said skin surface is not directly exposed to said source of Xray or ultraviolet radiation.

88. (new) The method defined in claim 72 wherein said skin surface is not directly exposed to said source of Xray or ultraviolet radiation.

89. (new) The method defined in claim 78 wherein said skin surface is not directly exposed to said source of Xray or ultraviolet radiation.

90. (new) A light treatment method comprising:  
generating energy of a selected composition;  
directing said energy towards a skin surface;  
thereafter applying a marker film to said skin surface at least proximate to locations where the energy has been applied to said skin surface; and  
operating a sensor to detect said marker film on said surface.

91. (new) The method defined in claim 90 wherein said marker film includes a visible pigment composition.